

ABSTRACT OF THE DISCLOSURE

A data modulation method to suppress a DC component using parity information of a synchronization codeword, and an apparatus for executing the method. Input data is multiplexed according to multiplexing information, the synchronization codeword including the multiplexing information for a multiplexed data stream is inserted, modulation is performed and plural modulated data streams are output, and a respective one of the modulated data streams having a DC component, which is smallest is selected from among the modulated streams. The synchronization codeword has a bit to control the parity of the codeword, and the input data is multiplexed according to whether a parity of the synchronization codeword is even or is odd. Thus, the DC component included in the modulated codeword stream may be more effectively suppressed without a decrease in a code rate.